

**REMARKS**

Claims 1-42 are pending in this application. By this Amendment, claims 5 and 39 are amended. No new matter is added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (as the amendments amplify issues previously discussed throughout prosecution); (c) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

**I. Claims Define Patentable Subject Matter**

**A. Rejection under 35 U.S.C. §101**

The Office Action rejects claims 36 and 37 under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter. Applicants respectfully traverse this rejection.

Specifically, Applicants assert that claims 36-37 are directed to a "wireless medium interface" and a "network interface," respectively. An interface is statutory subject matter, and therefore, claims 36-37 are directed to statutory subject matter. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. §101.

**B. Rejections under 35 U.S.C. §102(e) and §103(a)**

The Office Action rejects claims 1-30 and 34-48 under 35 U.S.C. §102(e) as being anticipated by Bose (U.S. Patent Application Publication No. 2004/0221185); and rejects claims 31-33 and 39-42 under 35 U.S.C. §103(a) as being unpatentable over Bose in view of

Theis (U.S. Patent Application Publication No. 2005/0251621). Applicants respectfully traverse these rejections.

**1) Independent Claims 1, 15, 21, 26, and 39 Define Patentable Subject Matter**

Regarding independent claims 1, 15, 21, 26, and 39, Applicants assert that Bose and Theis, individually or in combination, fail to disclose or suggest a method wherein at least a potentially needed functional unit is identified based on a determination of whether the potentially needed functional unit is operable to execute at least one software instruction stored within an instruction cache, as recited in claims 1, 15, and 21, and similarly recited in claims 26 and 39.

The Office Action, on page 3, lines 23-27, asserts that Bose discloses an instruction cache (ICACHE) 102, an instruction fetch address register (IFAR) 104, an instruction buffer (IBUF) 106, multiplexor 108, branch history table and branch target buffer logic BHT/BTB 110, a branch unit 112, an instruction decode-dispatch unit IDU 114 and an issue queue 116 that form a typical instruction unit (I-Unit). The Office Action then asserts that the instruction cache is the instruction unit (I-Unit). Applicants respectfully disagree.

Specifically, Applicants assert that, as recited in Bose and quoted by the Office Action, the instruction cache (ICACHE) 102 *and* other units form the instruction unit (I-Unit) of Bose. Thus, because the instruction cache (ICACHE) 102 and other units form the instruction unit (I-Unit), the instruction cache (ICACHE) 102 is a part of the instruction unit (I-Unit) and is not *the* instruction unit (I-Unit).

Further, Bose does not make a determination of whether the potentially needed functional unit is operable to execute at least one software instruction stored within the instruction cache (ICACHE) 102. In stark contrast, Bose, in paragraph [0039], lines 1-5, discloses that the instructions are fetched from the instruction cache (ICACHE) 102, and

placed in instruction buffer (IBUF) 106 from which subsequent instruction steps are initiated. Bose, in paragraph [0039], lines 15-24, further discloses that IDU 114 decodes the instructions to classify the operation types and dispatches the instructions into issue queue 116 where the instructions wait until they are selected to issue to one of the execution units which may be used in processing the issued instructions.

Accordingly, Bose fails to disclose a method wherein at least a potentially needed functional unit is identified based on a determination of whether the potentially needed functional unit is operable to execute at least one software instruction stored within an instruction cache, as recited in independent claims 1, 15, 21, 26, and 39.

To the limited extent that Theis is relied on by the Office Action to reject independent claim 39 in combination with Bose, Applicants assert that Theis fails to make up for the deficiencies of Bose. Thus, Applicants respectfully assert that Theis fails to disclose the above feature recited in claims 1, 15, 21, 26, and 39.

## 2) Dependent Claim 5 Defines Patentable Subject Matter

Regarding claim 5, Applicants assert that Bose and Theis, individually or in combination, fail to disclose or suggest a method including at least the step of generating an information vector for a line of one or more software instructions before or as the line is fetched into the instruction cache, wherein the information vector identifies a set of functional units that are operable to execute the one or more software instructions, as recited in claim 5.

As described above, Bose, in paragraph [0039], lines 1-5, merely discloses that the instructions are fetched from the instruction cache (ICACHE) 102, and placed in instruction buffer (IBUF) 106 from which subsequent instruction steps are initiated. Accordingly, Bose fails to disclose a method including at least the step of generating an information vector for the line before or as the line is fetched into the instruction cache, as recited in claim 5.

Although not relied on by the Office Action, Applicants respectfully assert that Theis also fails to disclose the above feature recited in claim 5, and therefore, fails to make up for the deficiencies of Bose.

### 3) **Dependent Claims 7 and 8 Define Patentable Subject Matter**

Regarding claims 7 and 8, Applicants assert that Bose and Theis, individually or in combination, fail to disclose or suggest a method including at least the step of incrementing a use counter for a functional unit when a software instruction is fetched into the instruction cache, and *when the functional unit is operable* to execute at least part of the software instruction, as recited in claim 7; and a method including at least the step of decrementing the use counter for the functional unit *when the software instruction is eliminated from the instruction cache*, as recited in claim 8.

In contrast, Bose, in paragraph [0046], lines 4-6, merely discloses a duration counter 168 that is reset at the beginning of each active period and maintains a count *indicating the duration of the current active period*. Accordingly, Bose fails to disclose a method including at least the steps of incrementing the use counter and/or decrementing the use counter, as recited in claims 7 and 8, respectively.

Although not relied on by the Office Action, Applicants respectfully assert that Theis also fails to disclose the above features recited in claim 7 and 8, and therefore, fails to make up for the deficiencies of Bose.

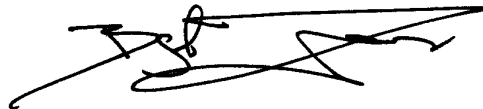
## II. **Conclusion**

In accordance with the above remarks, Applicants respectfully submit that independent claims 1, 15, 21, 26, and 39 define patentable subject matter. Claims 2-14, 16-20, 22-25, 27-38, and 40-42 depend from claims 1, 15, 21, 26, and 39, respectively, and therefore, also define patentable subject matter, as well as for the additional features they recite. Thus, Applicants respectfully request that the Examiner withdraw the rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-42 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Bogdan A. Zinchenko  
Registration No. 57,473

JAO:BAZ/jgg

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**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

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